

REMARKS/ARGUMENTS

The Applicants originally submitted Claims 1-21 in the application. In previous responses, the Applicants amended Claims 1-2, 4-6, 8-9, 11-13, 15-16 and 18-20. In the present response, the Applicants amended Claims 1, 5, 8, 12, 15 and 19. The Applicants have not amended, canceled or added any other claims in the preliminary amendment. Accordingly, Claims 1-21 are currently pending in the application.

I. Formal Matters and Objections

The Examiner has objected to Claims 5, 12 and 19 for containing informalities. In response, the Applicants have amended Claims 5, 12 and 19 to correct the noted informalities. Accordingly, the Applicants respectfully request the Examiner to withdraw the objection of Claims 5, 12 and 19 and allow issuance thereof.

II. Rejection of Claims 1-14 under 35 U.S.C. §103

The Examiner has rejected Claims 1-14 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,933,627 to Parady in view of Microware's OS-9 White Paper. The Applicants respectfully disagree.

Parady discloses switching between threads of a program in response to a long-latency event. (*See* Parady, column 2, lines 26-28.) As recognized by the Examiner, Parady does not teach a miss fulfillment FIFO or, based on a context switch request, storing a thread executing within a multi-thread execution pipeline loop in the miss fulfillment FIFO to prevent the thread

from executing until a device request from the thread is fulfilled as recited in independent Claims 1 and 8. (*See* Examiner's Action, pages 3-4.) To cure this deficiency, the Examiner cites OS-9.

OS-9 describes the key features of the OS-9 Real-Time Operating System. (*See* Abstract, page 1.) OS-9 provides a prioritized, round-robin scheduling algorithm with aging to allocate CPU time for each process. (*See* page 5.) In OS-9, a process that is running may yield for a specific condition to occur. The yielded process is stored in one of several queues depending on what condition the process is waiting. (*See* page 5.)

The queues in OS-9, however, are not a miss fulfillment FIFO as recited in independent Claims 1 and 8. Instead, the queues of OS-9 are general storage areas that hold a process until a child process terminates, the process is awakened, an event value is received or a semaphore is received. (*See* page 5.) Unlike a first-in, first-out buffer, processes that enter the queues of OS-9 do not sequence there through but instead, remain in the queue until a condition is met, **regardless** of when the process entered the queue. After the condition is met, the processes are moved from the respective queue to the Active Queue. (*See* page 5.) As such, the queues disclosed in OS-9 do not teach or suggest a miss fulfillment FIFO (first-in, first-out buffer).

Accordingly, OS-9 also does not teach or suggest storing a thread executing within a multi-thread execution pipeline loop, based on a context switch request, in the miss fulfillment FIFO for sequencing there through to prevent the thread from executing until a device request from the thread is fulfilled as recited in amended independent Claims 1 and 8. In fact, OS-9 does not even address a thread executing within a multi-thread execution pipeline loop. Instead, OS-9 is directed to round-robin scheduling with aging to allocate CPU time to processes. (*See* page 5.)

OS-9, therefore, provides no teaching or suggestion of a misfulfillment FIFO or storing a thread executing within a multi-thread execution pipeline loop, based on a context switch request, in the miss fulfillment FIFO for sequencing there through to prevent the thread from executing until a device request from the thread is fulfilled. As such, OS-9 does not cure the deficiencies of Parady.

The cited combination of Parady and OS-9, therefore, does not teach or suggest each and every element of amended independent Claims 1 and 8 and does not provide a *prima facie* case of obviousness of these independent Claims and Claims dependent thereon. Accordingly, Claims 1-14 are not unpatentable in view of Parady and OS-9. Thus, the Applicants respectfully request the Examiner to withdraw the §103(a) rejection with respect to Claims 1-14 and allow issuance thereof.

III. Rejection of Claims 15-21 under 35 U.S.C. §103

The Examiner has rejected Claims 15-21 under 35 U.S.C. §103(a) as being unpatentable over Parady in view of OS-9 and in further view of U.S. Patent No. 5,509,006 to Wilford, *et al.* The Applicants respectfully disagree.

As discussed above regarding independent Claims 1 and 8, the cited combination of Parady and OS-9 does not teach or suggest a miss fulfillment FIFO nor storing, based on receiving a context switch request, a thread executing within a multi-thread execution pipeline loop in the miss fulfillment FIFO for sequencing there through as also recited in independent Claim 15. Wilford has not been cited to cure this deficiency of Parady but to teach tree engines that parse data. (See Examiner's Final Rejection, page 10.) Furthermore, Wilford does not cure the deficiencies of Parady

but is directed to providing a specialized apparatus capable of switching packets at high speed. (See Wilford, column 1, lines 65-66.) In a preferred embodiment, the specialized apparatus includes a decision tree memory. (See Wilford, column 2, lines 9-10.) Thus, the cited combination of Parady and Wilford does not teach or suggest each and every element of independent Claim 15 and, as such, does not provide a *prima facie* case of obviousness of Claim 15 and Claims dependent thereon. Accordingly, the Applicants respectfully request the Examiner to withdraw the §103(a) rejection and allow issuance of Claims 15-17 and 20-21.


IV. Conclusion

In view of the foregoing amendment and remarks, the Applicants now see all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicit a Notice of Allowance for Claims 1-21.

The Applicants request the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 08-2395.

Respectfully submitted,

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